

WHAT IS CLAIMED IS:

1. An isolated nucleic acid molecule comprising a nucleotide sequence which encodes a polypeptide comprising the amino acid sequence in SEQ ID NO:13.
- 5 2. The isolated nucleic acid molecule of Claim 1 wherein the nucleic acid molecule comprises of the nucleotide sequence in SEQ ID NO:12.
3. An isolated nucleic acid molecule comprising a nucleotide sequence which  
10 encodes a polypeptide comprising amino acid residues 19 to 158 in SEQ ID NO:13.
4. An isolated nucleic acid molecule which encodes a polypeptide comprising amino acid residues 151 to 158 of SEQ ID NO:13 and which hybridizes to the complement of a nucleic acid molecule that encodes a polypeptide comprising the amino acid sequence  
15 of SEQ ID NO:13 under hybridization conditions comprising 6xSSC at 45 °C and one or more washes in 0.2xSSC/0.1% SDS at 50-65 °C
5. The isolated nucleic acid molecule of Claim 4 wherein said nucleic acid molecule hybridizes to the complement of the nucleic acid molecule in SEQ ID NO:12  
20 under said stringent conditions.
6. An isolated nucleic acid molecule which encodes a polypeptide comprising amino acid residues 151 to 158 of SEQ ID NO:13 and which hybridizes to the complement of a nucleic acid molecule that encodes a polypeptide comprising the amino acid sequence  
25 of SEQ ID NO:13 under hybridization conditions comprising 6xSSC at 45 °C and one or more washes in 0.1xSSC/0.2% SDS at 68 °C.
7. The isolated nucleic acid molecule of Claim 6 wherein said nucleic acid molecule hybridizes to the complement of the nucleic acid molecule in SEQ ID NO:12  
30 under said stringent conditions.
8. A vector comprising the nucleic acid molecule of Claim 1, 2 or 3.
9. The vector of Claim 8 further comprising a nucleic acid molecule which  
35 regulates the expression of a polypeptide encoded by the nucleic acid molecule.

10. A host cell comprising the vector of Claim 8.
11. A host cell comprising the vector of Claim 9.
- 5 12. A host cell genetically engineered to express the nucleic acid molecule of Claim 1, 2 or 3.
13. The host cell of Claim 10 which is a mammalian host cell.
- 10 14. The host cell of Claim 11 which is a mammalian host cell.
15. The host cell of Claim 12 which is a mammalian host cell.
16. A method of producing a polypeptide comprising: culturing the host cell of  
15 Claim 10 under conditions in which the nucleic acid molecule is expressed.
17. A method of producing a polypeptide comprising: culturing the host cell of  
Claim 11 under conditions in which the nucleic acid molecule is expressed.
- 20 18. An isolated polypeptide comprising of the amino acid sequence in SEQ ID NO:13.
19. An isolated polypeptide comprising of the amino acid sequence of amino  
acid residues 19 to 158 of the amino acid sequence in SEQ ID NO:13.
- 25 20. An isolated polypeptide comprising at least amino acid residues:
- (a) 125 to 158 of SEQ ID NO:13;
- (b) 100 to 158 of SEQ ID NO:13;
- (c) 75 to 158 of SEQ ID NO:13;
- 30 (d) 50 to 158 of SEQ ID NO:13; or
- (e) 25 to 158 of SEQ ID NO:13.
21. The isolated polypeptide of Claim 18 further comprising a heterologous  
polypeptide.
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22. The isolated polypeptide of Claim 21, wherein the heterologous polypeptide is an Ig polypeptide.

23. A monoclonal antibody produced by:

- 5 (a) hybridoma clone M15 3F7.3 (ATCC™ No. PTA-593);  
(b) hybridoma clone M15 2O3.1 (ATCC™ No. PTA-591);  
(c) hybridoma clone M15 10F7.1 (ATCC™ No. PTA-592);  
(d) hybridoma clone M15 1B4.1 (ATCC™ No. PTA-588);  
(e) hybridoma clone M15 9F11.1 (ATCC™ No. PTA-590);  
10 (f) hybridoma clone M15 5A16.1 (ATCC™ No. PTA-587); or  
an antigen binding fragment thereof.

24. An isolated antibody that competes with the monoclonal antibody produced by hybridoma clone M15 3F7.3, M15 2O3.1, M15 10F7.1, M15 1B4.1, M15 9F11.1 or M15  
15 5A16.1 for epitope binding.

25. The isolated antibody of Claim 24, wherein the antibody is a monoclonal antibody.

20 26. The isolated antibody of Claim 24, wherein the antibody is a humanized antibody.

27. The isolated antibody of Claim 24, wherein the antibody is a human antibody.  
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28. The isolated antibody of Claim 24, wherein the antibody is a single chain antibody.

29. The monoclonal antibody of Claim 23 which is conjugated to a therapeutic  
30 moiety.

30. The monoclonal antibody of Claim 29, wherein the therapeutic moiety is a cytotoxic agent, therapeutic agent or cytokine.

31. The monoclonal antibody of Claim 29, wherein the cytotoxic factor is paclitaxol, cytochalasin B, gramicidin D, ethidium bromide, emetine, mitomycin, etoposide,  
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tenoposide, vincristine, vinblastine, colchicin, doxorubicin, daunorubicin, dihydroxy anthracin dione, mitoxantrone, mithramycin, actinomycin D, 1-dehydrotestosterone, glucocorticoids, procaine, tetracaine, lidocaine, propranolol, or puromycin.

- 5           32.     The monoclonal antibody of Claim 29, wherein the therapeutic agent is methotrexate, 6-mercaptopurine, 6-thioguanine, cytarabine, 5-fluorouracil decarbazine, mechlorethamine, thioepa chlorambucil, melphalan, carmustine (BSNU), lomustine (CCNU), cyclothosphamide, busulfan, dibromomannitol, streptozotocin, mitomycin C, or cis-dichlorodiamine platinum (II) (DDP) cisplatin.

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33.     The monoclonal antibody of Claim 29, wherein the cytokine IL-1, IL-2, IL-6, TNF- $\alpha$ , TNF- $\beta$ , or IFN- $\gamma$ .

34.     A pharmaceutical composition comprising the monoclonal antibody of Claim 15 23 or an antigen binding fragment thereof and a pharmaceutically acceptable carrier.

35.     A pharmaceutical composition comprising the monoclonal antibody of Claim 29 or an antigen binding fragment thereof and a pharmaceutically acceptable carrier.

- 20          36.     A method for treating or preventing an immune disorder in a mammal, comprising administering to the subject the pharmaceutical composition of Claim 34 or 35.

37.     The method of Claim 35 or 36, wherein the immune disorder is a TH2 or TH2-like related immune disorder.

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38.     The method of Claim 35 or 36, wherein the immune disorder is asthma.

39.     The method of Claim 35 or 36, wherein the immune disorder is an allergy.

- 30          40.     The method of Claim 35 or 36, wherein the immune disorder is an IgE-mediated condition.

41.     The method of Claim 35 or 36, wherein the immune disorder is an IL-4-mediated condition.

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42.     The method of Claim 35 or 36, wherein the mammal is a human.

43. A method for detecting aberrant expression of a 103 polypeptide in a subject, comprising:

- 5           a)     contacting a sample of cells or body fluid from said subject with an antibody of Claim 28 or antigen binding fragment thereof, or Claim 29 or antigen binding fragment thereof; and
- b)     measuring the level of the 103 polypeptide in said sample, wherein an increase or decrease in the 103 polypeptide level in said sample relative to a standard level of 103 polypeptide indicates aberrant expression of said 103 polypeptide in said subject.

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- 15           a)     contacting a sample of cells or body fluid from said subject with an antibody of Claim 28 or antigen binding fragment thereof, or Claim 29 or antigen binding fragment thereof;
- b)     measuring the level of the 103 polypeptide in said sample; and
- c)     comparing the level of the 103 polypeptide in said sample with a standard level of the 103 polypeptide, wherein an increase or decrease in the 103 polypeptide level in said sample compared to the standard level indicates aberrant expression of said 103 polypeptide in said subject.
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45. The method of Claim 43, wherein the antibody is conjugated to a detectable substance.

25           46. The method of Claim 43, wherein the detectable substance is horseradish peroxidase, alkaline phosphatase, beta-galactosidase, or acetylcholinesterase.

47. The method of Claim 43, wherein the detectable substance is fluorescein, fluorescein isothiocyanate, rhodamine, dichlorotriazinylamine fluorescein, or phycoerythrin.

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48. The method of Claim 43, wherein the detectable substance is  $^{125}\text{I}$ ,  $^{131}\text{I}$ ,  $^{35}\text{S}$   $^3\text{H}$  or  $^{99}\text{Tc}$ .

49. The method of Claim 43, wherein the subject is a human.

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50. A kit comprising the monoclonal antibody of Claim 23 or an antigen binding

fragment thereof and a container.

51. The kit of Claim 50, wherein the monoclonal antibody is conjugated to a detectable substance.

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52. The kit of Claim 50, wherein the detectable substance is horseradish peroxidase, alkaline phosphatase, beta-galactosidase, or acetylcholinesterase.

53. The kit of Claim 50, wherein the detectable substance is fluorescein, fluorescein isothiocyanate, rhodamine, dichlorotriazinylamine fluorescein, or phycoerythrin.

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54. A kit comprising the antibody of Claim 24 or an antigen binding fragment thereof and a container.

55. The kit of Claim 54, wherein the monoclonal antibody is conjugated to a detectable substance.

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56. The kit of Claim 54, wherein the detectable substance is horseradish peroxidase, alkaline phosphatase, beta-galactosidase, or acetylcholinesterase.

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57. The kit of Claim 54, wherein the detectable substance is fluorescein, fluorescein isothiocyanate, rhodamine, dichlorotriazinylamine fluorescein, or phycoerythrin.

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